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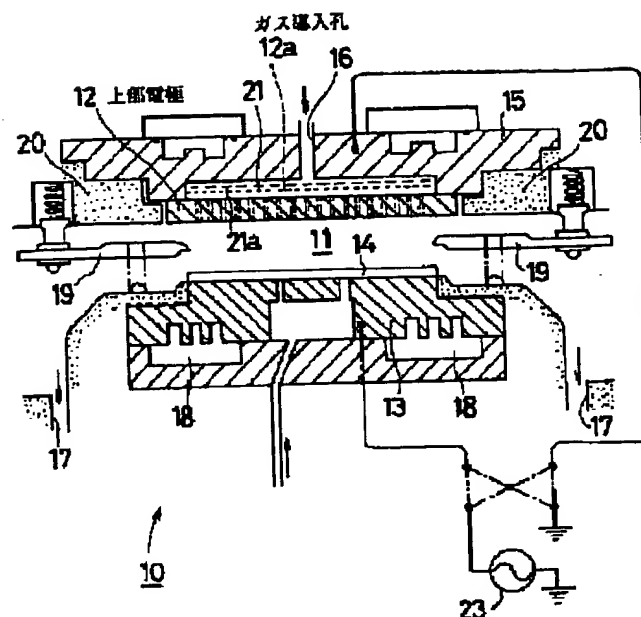
APPLICATION DATE : 24-01-94
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TITLE : ELECTRODE FOR PLASMA
 GENERATION SYSTEM AND
 PRODUCTION THEREOF



ABSTRACT : PURPOSE: To obtain a consumption retardant electrode for plasma generation system excellent in electric conductivity which causes no contamination of wafer at the time of plasma processing by adding a specified quantity of silicon to a silicon carbide porous material thereby specifying the electric resistivity.

CONSTITUTION: Silicon carbide powder having average particle size of 20 μ m or less is molded and sintered to produce a silicon carbide porous material having density of 1.0-2.3g/cm³ which is then added with 50wt.% or more of silicon for the total quantity of silicon carbide porous material and silicon. Consequently, the electric resistivity of the composite silicon carbide can be sustained at 40 or below. The composite silicon carbide is then cut to produce an upper electrode 12. The upper electrode 12 is arranged in a plasma etching system 10 and a semiconductor wafer 14 is mounted on the lower electrode 13 while directing the surface to be etched upward. The upper electrode is chemically stable and the plasma processing can be performed without contaminating the semiconductor wafer.

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